



SECRETARY OF STATE

ADDITIONAL CONDITIONS ON USE OF THE MICROCOMPUTER TALLY SYSTEM

Whereas, pursuant to Elections Code section 19201, no voting system, in whole or in part, may be used unless it has received the approval of the Secretary of State; and

Whereas, Elections Code section 19222 requires that I, as Secretary of State for the State of California, conduct periodic reviews of voting systems to determine if they are defective, obsolete, or otherwise unacceptable; and

Whereas, on June 21, 2007, I, as Secretary of State signed a letter of agreement with Zev Yaroslavsky, Chairman of the Los Angeles County Board of Supervisors (Board), on behalf of the Board regarding a review of the County's Microcomputer Tally System (MTS); and

Whereas, it is necessary and appropriate to impose conditions on the County's continued use of MTS in order to safeguard and enhance the security, accuracy, and reliability of MTS and to ensure continued election security and accuracy in the County; now

Therefore, I, Debra Bowen, Secretary of State for the State of California, find and determine, pursuant to Division 19 of the Elections Code, as follows:

For the reasons set forth above, the Microcomputer Tally System (MTS), version 1.2, which was originally certified on January 16, 1998, for use in California and version 1.3.1, which was certified on February 11, 2004, is approved for use in the February 5, 2008, Presidential Primary Election and subsequent elections in California subject to the following additional conditions.

1. **Hardening:** The computers used as the Micro Tally System (MTS) server and clients must be hardened according to written specifications provided to the SOS by the County of Los Angeles. The hardening process must not disable essential MTS functionality.
2. **MTS Server/Client Equipment and Network Security:** The County must provide the SOS with its written plan for securing the MTS server/client equipment and network. The plan must include the following:

- Requirements for physical security of the MTS server/client equipment.
 - Must include requirement for at least two persons to be present whenever any person has physical access to the equipment, whether for maintenance, modification or any other purpose.
 - Requirements for physical security of the MTS network.
 - Requirements for physical security and documentation of chain of custody of any removable media used in conjunction with the MTS server/client equipment.
 - Requirements for unique, strong password authentication to control access to the MTS server/client equipment and/or network, directly or indirectly.
 - Requirements for logging all access to the MTS/server client equipment and/or network.
3. **Mainframe Security:** The County must provide the SOS with its written plan for securing the mainframe computer component(s) of the MTS system. The plan must include the following:
- Requirements for physical security of the mainframe equipment.
 - Must include requirement for at least two persons to be present whenever any person has physical access to the equipment, whether for maintenance, modification or any other purpose.
 - Requirements for the physical security of any offsite backup equipment.
 - Must include requirement for at least two persons to be present whenever any person has physical access to the offsite backup equipment, whether for maintenance, modification or any other purpose.
 - Requirements for unique, strong password authentication to control access to the mainframe equipment used in conjunction with the voting system, directly or remotely.
 - Requirements for logging all access to the mainframe equipment used in conjunction with the voting system.
4. **MTS Software Validation:** The county must create a SHA-1 hash of the trusted build of the MTS software after logic and accuracy testing is performed and prior to the pre-election deposit of a copy of the software with the Secretary of State that is required not later than 7 days before the election, pursuant to Elections Code section 15001(a). Immediately after the final canvass update is completed, but before official certification of results, a second SHA-1

hash must be created of the MTS software actually used for the election. Any discrepancy between the two hash values must be reported to the Secretary of State immediately.

5. **MTS Card Reader Verification Requirements:** In addition to complying with the Post Election Manual Tally Requirements, which only apply in contests where the margin of victory is less than one half of one percent (0.5%) and are incorporated herein by reference, the requirements below must be met.
 - (A) Los Angeles County elections officials shall conduct a Logic and Accuracy (L&A) test on each card reader being used in the election before and after each official tally run. If the pre-run L&A test fails for any reader, that reader shall not be used for the official tally run. If the post-run L&A fails for any reader, all precincts run through that reader will be deleted from the central tally results and reprocessed through a different reader.
 - (B) To further verify the accuracy of the initial machine count and to help ensure that any potential miscounts are detected and corrected, Los Angeles County elections officials must include in the 1% manual tally required by Elections Code section 15360 at least one randomly selected precinct from each card reader used in the Election Night tally. For any card reader used in the Election Night tally that is not represented in the initial random selection conducted to comply with Elections Code section 15360, Los Angeles County must conduct an additional random selection among the precincts that were counted by each unrepresented card reader and add the randomly selected precinct or precincts to the sample to be manually tallied pursuant to Elections Code section 15360.
 - (C) If any variance between the semifinal official canvass results and the manual tally results is discovered in the completion of the 1% manual tally required under 5(B) above, elections officials must document and disclose each variance and take the following steps to ensure the accuracy and integrity of the election results:
 - (1) Elections officials must calculate a variance percentage for each contest by dividing the total number of variances found in the 1% sample by the total ballots cast in the 1% sample for that contest as counted in the manual tally (not including under- and overvotes). A “variance” means each difference between the card reader result and manual tally result for each measure or office. A variance does not include a difference between the card reader result and manual tally result that is not attributable to card reader miscount.
 - (2) Elections officials must determine whether a “significant variance” – one where the variance percentage is greater than 10% (one-tenth) of the overall margin of victory percentage – exists for each contest. The margin of victory shall be based on semifinal official canvass results, as defined in Elections Code section 353.5. The “margin of victory” is the difference between the first place and the second place candidate in a given contest. For a contest involving a measure, the “margin of victory” is the difference between the “Yes” and the “No” votes. For a multi-winner contest, the “margin of victory” is the difference between

the candidate who had just enough votes to win a seat and the next candidate below. For example, for a race with three open seats, the margin of victory would be the difference between the third and fourth place candidates.

- (3) If no significant variance is found, then elections officials shall include the precinct results in the official tally in accordance with Elections Code section 15360. If a significant variance is found, then election officials shall take the following steps:
 - (a) If at least three precincts tallied by the same card reader were part of the initial 1% random sample, then go to step (4).
 - (b) If less than three precincts tallied by the same card reader were part of the initial 1% random sample, then elections officials shall do the following:
 - i. Randomly select additional precincts tallied by the same card reader to reach a total of three.
 - ii. Manually tally the additional precincts.
 - iii. Go to step (4) below.
- (4) Calculate variance percentages for each contest based on the combined results from the three or more precincts tallied by the same card reader that were part of the initial 1% random sample.

If no significant variance is found, then elections officials shall include the precinct results in the official tally in accordance with Elections Code section 15360. (Stop)

If a significant variance is found, then go to step (5).
- (5) Delete all precincts that were run through that reader on Election Night from the central tally results.
- (6) Reprocess them through a different reader on which no significant variance was discovered during the initial manual tally process.
- (7) Compare the earlier manual tally results of the three (or more) precincts with the new machine count results for those precincts.

If no significant variance is found, then elections officials shall include the precinct results in the official tally in accordance with Elections Code section 15360. (Stop)

If a significant variance is found, then go back to step (5) and reprocess the results through a different reader on which no significant variance was discovered during the initial manual tally process. Elections officials may repeat this process if significant variances are discovered again, but only if there are additional card readers available on which no significant variance was discovered during the initial manual tally process.
- (8) If there are no additional card readers available on which to conduct steps (5)-(7), then elections officials shall begin a manual tally of the

precincts that were run through that reader on Election Night. The manual tally shall be continued until there is no longer a significant variance or all ballots have been manually tallied.

- (D) Elections officials shall keep a log to record the MTS Card Reader Verification Requirements process, including the results of each round of manual tallying for each precinct included in the sample, how variances were resolved, and details of any actions taken that are contrary to written protocols. The log must be made available to the public.
 - (E) To avoid manually counting the same precinct under two separate processes, if a precinct has been randomly selected for a manual tally under these requirements, elections officials may use any manual tally results for the precinct obtained as part of either of the following:
 - (1) The 1% manual tally conducted pursuant to Elections Code section 15360; or
 - (2) The Post Election Manual Tally Requirements, which only apply in contests where the margin of victory is less than one half of one percent (0.5%).
6. Where circumstances require it, the Secretary of State may, following consultation with the County, adjust or suspend any of the conditions included herein as the Secretary of State deems prudent and necessary to facilitate successful election administration. Such adjustments or suspensions shall be deemed to be incorporated herein as if set forth in full.



IN WITNESS WHEREOF, I hereunto set my hand and affix the Great Seal of the State of California, this 15th day of January, 2008.

DEBRA BOWEN
Secretary of State